

ABSTRACT OF THE DISCLOSURE

A semiconductor wafer is made of a silicon substrate wafer and an epitaxial silicon layer deposited thereon. The substrate wafer has a specific resistance of 0.1 to 50  $\Omega\text{cm}$ , an oxygen concentration of less than  $7.5 \times 10^{17} \text{ atcm}^{-3}$  and a nitrogen concentration of  $1 \times 10^{13}$  to  $5 \times 10^{15} \text{ atcm}^{-3}$ . The epitaxial layer is 0.2 to 1.0  $\mu\text{m}$  thick and has a surface on which fewer than 30 LLS (localized light scattering) defects which are greater in size than 0.085  $\mu\text{m}$  can be detected. A method for producing the semiconductor wafer has a sequence of steps for providing the substrate wafer with the aforementioned features; heating the substrate wafer in a deposition reactor to a deposition temperature of at least 1120°C; and depositing the epitaxial layer thereon with a thickness of 0.2 to 1.0  $\mu\text{m}$ , immediately after the deposition temperature has been reached.

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